Technical Note

2023 RIMS II Update

March 29, 2023

This document provides background information about the source data, methods, and assumptions underlying the 2023 update of the Regional Input-Output Modeling System (RIMS II) multipliers. This update incorporates new regional data, an averaged national savings rate, and the most current benchmark input-output (I-O) data.

The averaged national savings rate (7.9 percent) uses the revised 2021 (12.0 percent) and new 2022 (3.7 percent) U.S. savings rate because the 2021 savings rate (12.0 percent) reflects unusual conditions related to COVID-19 (table 1). The use of an averaged savings rate for the 2023 update follows the decision to use the 2019 NIPA savings rate in the RIMS II 2022 update instead of the higher 2020 savings rate.

The high 2020 savings rate, along with the 2021–2022 rates, reflects atypical conditions resulting from the COVID-19 pandemic. Given the nonpermanent nature of the Covid-19 pandemic response programs and payments, the average of the revised 2020 rate and the new 2022 savings rate is more appropriate and consistent with historical rates used for the RIMS multipliers.

Summary methodology

- National data
  - Bureau of Economic Analysis (BEA) 2012 benchmark Input-Output Accounts
  - Savings rate, average of revised 2021 and new 2022 rates published in NIPA table 2.1
- Regional data
  - County-level Quarterly Census of Employment and Wages, 2021
  - American Community Survey 5-year estimates, 2011–2015
  - State earnings and employment, 2021
  - State tax data, 2021

National data

The industry data enumerating the inputs (including labor earnings) for each industry are currently drawn from BEA's 2012 benchmark I-O Accounts. The industry relationships between output, intermediate inputs, value added, and earnings are used to calculate RIMS II multipliers.

In a typical update, RIMS II multipliers incorporate the savings rate for the United States published in NIPA table 2.1. However, the 12.0 percent published savings rate in 2021 is significantly higher than the 2012–2019 average rate of 7.5 percent. Consequently, the average of the 2021 and 2022 rates (7.9 percent) was used instead of the 12.0 percent 2021 rate. Incorporating the higher 2021 savings rate into RIMS II estimates would have resulted in lower induced impacts, relative to the impacts seen in previous years. Since the model is generally used to forecast impacts under typical conditions, a savings rate closer to the historical average produces more accurate impact measures.

Regional data

County-level data from the Quarterly Census of Employment and Wages are updated to 2021. These data are used to calculate location quotients (LQs) that compare industry concentration for a study region to the entire United States. The LQs are used to model the extent to which local industries can satisfy changes in demand. Increases or decreases in the LQs increase or decrease leakages from the study area.

The American Community Survey (ACS) county-by-county commuting estimates are used to calculate residence adjustments for earnings and employment. Residence adjustments account for the leakage of household earnings of workers who reside outside the study region. Commuting estimates are derived from the 2011–2015 ACS 5-year journey-to-work estimates.

State-level earnings and employment by industry data are updated from 2020 to 2021 in the 2023 RIMS II release . These two data sources are combined to create ratios of employment to earnings used to estimate the employment multipliers in RIMS II.

Finally, the RIMS II multipliers include the impact of taxes on household spending and therefore the induced impacts in the Type II multipliers. The 2023 RIMS II update includes new 2021 state-level tax rates.

Table 1. U.S. Personal Savings Rate

[Percent]

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Personal saving as a percentage of disposable personal income	8.6	6.1	7.1	7.5	7.0	7.3	7.6	8.8	17.0	12.0	3.7